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General Discussion

D. L. Hawksworth, J. M. Lynch, B. R. Trenbath and J. A. Pickett

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General discussion

D. L. Hawksworth (*Commonwealth Mycological Institute, Ferry Lane, Kew, Surrey*). I was interested that two of the four contributions this afternoon discussed exploitation of enzymic activities of microfungi. At the Commonwealth Mycological Institute we are very conscious of the wide variety of fungi, maintaining some 11 000 isolates in our culture collection. What is interesting to me is that the fungi actually used as enzyme sources are invariably drawn from an extremely limited spectrum of genera and species, often for accidental or historical reasons and that there may well be better sources of these and other enzymes in the numerous but as yet unstudied fungi. There is not only a gap in our biochemical knowledge base, but also in the systematics of the fungi now being utilized. Dr Lynch stressed the remarkable cellulolytic activity of *Trichoderma harzianum*; isolates passing under this name are certainly not genetically identical and it is evident that basic data on the biochemical activities of strains of such fungi will assume increasing importance in the 1990s. There is a need to direct expertise and resources into areas where knowledge is inadequate and could limit development; work on the biochemical systematics of microfungi would appear to fall into this category.

J. M. Lynch. We have screened large numbers of natural isolates of cellulolytic fungi and routinely deposit the most useful strains with the C.M.I. at Kew.

B. R. Trenbath (12 *New Road, Reading RG*1 5*JD*). On the matter of neem extracts used as antifeedants, it may be of interest to note that products from the same tree have at least two other uses. Leaves are traditionally used by Indian children as antiseptic dressings for minor wounds. Also, awareness of this bacteriostatic property led Professor Rajendra Prasad of the Indian Agricultural Research Institute, New Delhi, to develop an effective 'slow-release' nitrogen fertilizer in which urea was combined with neem oil. The neem oil inhibited the action of nitrification bacteria, thus preventing premature release of nitrate.

In connection with the admirable use by Dr Lynch of his mixed microbe system for the treatment of straw residues, I wonder whether there is a potential use for the mixture in connection with any other residues, for instance, troublesome crusts on stored slurry?

J. M. Lynch. Microbial consortia are likely to be useful for the treatment of a range of agricultural residues. Characterization and formulation of such consortia will depend on the nature of the residue and the environmental conditions for the treatment.

J. A. Pickett. Many plant-derived insect antifeedants have other types of biological activity. In addition to the numerous activities attributed to azadirachtin from the Indian neem tree polygodial from marsh pepper is reported to have plant growth regulatory properties, antimicrobial activity and antitumour effects in mammals.